

In the Specification

Please replace the paragraph beginning at page 2, line 20, with the following rewritten paragraph:

-- Although the Schmeichel et al. patents teach a number of significant improvements over the prior art, there are several limitations of the prior art, which are addressed and improved upon by the present invention. --

Please replace the paragraph beginning at page 3, line 14, with the following rewritten paragraph:

-- A limitation common to both the first and second embodiments of the Schmeichel et al. patents regards the attachment point and the design of the engagement member (or strike) which engages the end plate. As depicted in the drawings the strike is attached to the frame structure by a fastening element located a substantial distance from the inclined portion of the strike. This allows the strike to be flexed or bent upwardly in reaction to the stress forces exerted on the strike when the end plate is pivoted into and out of the fixed stretching position. Repeated flexure and/or bending may result in loosening and/or premature failure of the strike. Additionally, the strike includes a relatively thin lip portion which extends beyond the body of the strike and which rotatably contacts the end plate as it is pivoted into and out of the fixed stretching position. This lip portion is subject to high amounts of stress and is subject to flexure and/or bending which may lead to premature failure. --

Please replace the paragraph beginning at page 4, line 10, with the following rewritten paragraph:

-- The present invention relates to a tonneau cover apparatus for attaching and locking a flexible cover about a cargo box of a vehicle such as a pickup truck. The apparatus preferably includes a support frame, which is removably attached about the perimeter of the cargo box of the vehicle by at least one clamp. The flexible cover is attached to the support frame and to an end plate. The end plate is configured to pivotally engage an end plate engagement member, which is attached to the support frame. As the end plate pivots about the end plate engagement member to a fixed stretching position, the flexible cover is suitably stretched or tensed. In

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preferred embodiments, the end plate is releasably retained in the fixed stretching position by a latching member which is attached to the support frame and/or by a locking member which is slidingly attached to the end plate and which may be operatively connected to the end plate. A side bar securing clamp is also provided to secure the support frame to the pick up truck.--

Please replace the paragraph beginning at page 7, line 4, with the following rewritten paragraph:

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-- FIG. 8 is an enlarged fragmentary sectional view as seen generally along line 8 - 8 of FIG. 3 which shows a portion of the preferred apparatus as it is attached to an inner wall 14 of a side wall 12 of a cargo box of a pickup truck and which illustrates in phantom lines the locking member as it moves into engagement with the side rail 106;--

Please replace the paragraph beginning at page 7, line 26, with the following rewritten paragraph:

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-- FIG. 12 is an enlarged fragmentary sectional view of the alternate embodiment of FIG. 11 which illustrates the alternate apparatus in a fixed stretching position in which the end plate 420 exerts a tensile force to a flexible cover 410, and which illustrates in phantom lines the apparatus as it is unlatched and rotated out of the fixed stretching position in which the flexible cover is relatively relaxed;--

Please replace the paragraph beginning at page 9, line 18, with the following rewritten paragraph:

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-- Referring now to the drawings, and specifically FIGS. 1-10, there is illustrated a preferred embodiment of the present invention, wherein reference numeral 6 designates a vehicle, preferably a pickup truck, reference numeral 8 designates a preferred tonneau cover apparatus and reference numeral 10 designates the flexible cover. FIG. 1 illustrates a flexible cover 10 in use on a cargo box 11 of a pickup truck 6 having two outer sidewalls 12, each having an inner sidewall 14 (shown in FIG. 8), a forward end 13 and a tailgate 16, preferably with a release handle and lock mechanism 18, actuated with a key (not shown) or, alternatively, a remotely

actuated lock mechanism, having a remote keyless actuator (not shown), like those which are now well known in the art. As depicted, the flexible cover 10 is covering a top of a perimeter of the cargo box 11 of the pickup truck 6. The flexible cover 10 is secured to a front plate 19 and an end plate 20 each of which are secured to support frame 104 that includes rails 106 which are clamped to the respective sidewalls 12 of the pickup truck 6.--

Please replace the paragraph beginning at page 10, line 16, with the following rewritten paragraph:

-- The preferred tonneau cover apparatus 8 is secured to the sidewalls 12 of the pickup truck 6 using clamps 130 (see FIGS. 3 and 8), which secure the respective side rails 106 to the inner wall 14, which is an extension of the sidewall 12. The front plate 19 is secured to the respective side rails 106 as described above and the end plate 20 is engaged to a pair of end plate engagement members 170 (see FIGS. 3 and 5). When the end plate 20 is engaged it will initially occupy a position with respect to the respective engagement members 170 similar to that shown in phantom in FIG. 3. The distal end 32 of the end plate 20 is then pushed downward and the peak or crest 26 of the end plate 20 will then pivot against the pivot point 176 of the respective engagement member 170 such that the foot 30 of the end plate 20 will push the pawl element 200 of the latch member 190 downward and out of its path, so that the end plate 20 can become fully engaged within the respective engagement members 170 and the foot 30 becomes fully engaged within the inclined portion 178 (see FIG. 5) of the engagement member 170, as shown in FIG. 3. In this position, the end plate 20 is in a closed or a fixed stretching position, where the end plate 20 preferably exerts a tensile force upon the flexible cover 10 so that the flexible cover 10 will stretch and remain taught over the cargo box 11.--

Please replace the paragraph beginning at page 11, line 14, with the following rewritten paragraph:

-- When the end plate 20 is in the closed or fixed stretching position shown in FIG. 3, and it is desirable to open the tonneau cover apparatus 8 to gain access to the cargo box 11, the locking members 60 must be moved to a position where they are not engaged with the inwardly extending

flange 118 of the support structure 104. The latch member 190 must then be depressed to a position consistent with that shown in phantom in FIG. 3 so that the pawl element 200 is disengaged from the foot 30 of the end plate 20 so that the foot can pivot out of the cavity proximate the inclined portion 178 of the engagement member 170 without being impeded by the pawl element 200. This can be accomplished either by pushing downward on the release member 196 or pulling downward on the grip element 236 with enough force to bend the latch member 190. In this way, the end plate 20 is freed to pivot out of the fully engaged relationship with the respective engagement members 170 and release the tension on the flexible cover and even roll the flexible cover up around the end plate in a manner similar to that described in the previously described and incorporated Schmeichel patents.--

Please replace the paragraph beginning at page 11, line 29, with the following rewritten paragraph:

-- As depicted in FIG. 2, the end plate 20 is disengaged from a pawl element 200 on a latching member 190 and a locking member 60 is disengaged from an inward extending flange 118 of a side rail 106 (shown in FIG. 8) prior to pivoting or rotating the end plate 20 about an end plate engagement member 170 and out of a fixed stretching position shown in FIG. 1. Although a generally rectangularly shaped end plate 20 is depicted in the drawings, it is understood that the end plate 20 may have other configurations without departing from the spirit and scope of the invention. Moreover, it is understood that only selected portions of the end plate 20 are necessary to normal operation and that unnecessary portions may be omitted, if desired. In preferred embodiments the end plate is made of an aluminum alloy material. Referring now also to FIG. 7, the end plate 20 has an underside 56, a base portion 24, an upper surface 33 and a trailing surface 34.--

Please replace the paragraph beginning at page 12, line 28, with the following rewritten paragraph:

-- FIGS. 3 and 10 illustrate the apparatus as it pivots or rotates position into and out of a fixed stretching position and when in the fixed stretching position. As best seen in phantom lines, end plate 20 includes a distal end 32, which terminates in a first channel 36, which receives

an end of the flexible cover 10. The end plate 20 also includes a second channel 38, which is sized to slidingly receive a locking member 60. The second channel 38 is generally T-shaped and includes opposing sidewalls 40, 42 an upper wall 44 and opposing flanges 46, 48. The end plate or stretcher bar 20 also includes cavities 52, 54, which are sized to receive plugs 94, 96 that extend from an end plate cap 90. The plugs 94, 96 are provided with ribs 98, 100 which allow the end plate cap 90 to be frictionally attached to the end plate 20. When the end plate 20 is rotated or pivoted into a fixed stretching position, a peak or crest 26 of the end plate 20 contacts a pivot point 176 of an end plate engagement member, or strike 170. A ridge 28 on the base portion 24 of the end plate 20 then sweeps across an upper surface 177 of an extension portion 174 of the end plate engagement member 170. Referring now also to FIGS. 4-5 and 8-9, the ridge 28 then contacts and deflects the pawl element 200 of the engagement portion 194 of a latching member 190. That is to say, the latching member 190 is deflected from a first position where the end plate is prevented from being disengaged from the fixed stretching position to a second position, which permits the apparatus to be disengaged from the fixed stretching position. After the ridge 28 passes the pawl element 200, two things occur. First, the base portion 24 is moved into a base portion receiving area 180 in the end plate engagement member 170, and second, the latching member 190 moves from the second position to the first position wherein the pawl element 200 of the latching member 190 is biased into a pawl receiving area 50 of the end plate 20 where it confronts the foot 30 on the end plate 20. The pawl element 200 may be disengaged from the foot 30 and withdrawn from the pawl receiving area 50 by placing downward pressure on the release member 196 or pulling downward on the grip element 236, which is engaged with the latching member 190 through an opening 234. --

Please replace the paragraph beginning at page 13, line 24, with the following rewritten paragraph:

-- Turning more specifically to FIG. 4, the latching member 190 has a body portion 192, an engagement portion 194, a release member 196 and an attachment portion 198. The engagement portion 194 includes a pawl element 200 having a ridge engagement surface 202 and a foot engagement surface 204. Adjacent the foot engagement surface 204 is a recess or relief 206 which

accommodates a fastening element 186 used to attach the end plate engagement member or strike 170 to the support frame 104 (see FIG. 3). Note that the angle "A" between the foot engagement surface 204 and a top surface 207 of the recess 206 of the body portion 192 is less than or equal to 90 degrees, preferably about 88 degrees to prevent the end plate 20 from being forced out of the fixed stretching position when lifting force is applied upwardly upon the bottom of end plate 20 when it is in the fixed stretching position as shown in FIG. 3. The upper surface 212 of the latch member 190 is generally parallel with the top surface 207 of the recess 206, so the angle "A" will be the same as an angle (not shown) between the foot engagement surface 204 and the upper surface 212 of the latch member 190. The latching member 190 includes a release member 196, which is preferably an upright member 208 with an enlarged head 210. In operation, the release member 196 is manipulated by placing downward pressure on the enlarged head 210 of the release member 196 through the flexible cover 10 and is used to disengage the pawl element 200 from the foot 30 of the end plate 20. Referring now also to FIG. 9, an upwardly extending recess 214, having a throat portion 216, partially delineates or separates the attachment portion 198 from the body portion 192. The attachment portion 198 is connected to the body portion 192 by a thinned portion 218. The attachment portion 198 includes a slot 226, which receives a fastener 220 and a threaded aperture 228, which receives an adjustment member or element 230. The attachment portion 198 also includes a limiter or stop 232, which controls the range of motion of the latching member 190 as it moves from the first position to the second position. Note that the upper and lower surfaces 198a, 198b of the attachment portion 198, that are parallel to broken line 198c (shown schematically in FIG. 4), reside at an angle, B, with respect to upper and lower surfaces 192a, 192b of the body portion 192, respectively, when the latch member 190 is disengaged from the side rail 106. This angle "B" is about 1 to about 7, preferably about 4 degrees and ensures that the upper surface 212 of the latching member 190 biasingly contacts an inwardly extending flange 118 on a side rail 106 when the latching member 190 is attached thereto as shown in FIGS. 3 and 5. The latching member 190 is preferably manufactured from a glass filled nylon resin material...

Please replace the paragraph beginning at page 15, line 17, with the following rewritten paragraph:

Q12 -- The bolt or fastening element 186 preferably has an axis "b" which passes through the

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center of the bolt 186. This axis "b" is preferably located a distance, " d_1 ", from the pivot point 176, denoted by line "a" in FIG. 3, which is 3/4ths of an inch in the most preferred embodiment shown in FIG. 3. In alternative embodiments, however, this distance, " d_1 ", will be equal to or less than 2.0 inches, more preferably 1.5 inches, even more preferably 1.0 inch. In a more preferred embodiment, this distance will be about 13/16ths of an inch.--

Please replace the paragraph beginning at page 16, line 23, with the following rewritten paragraph:

-- FIG. 7 illustrates a locking member 60 as it is being installed into a channel 38 of an end plate 20. As the locking member 60 is inserted into the channel 38, the friction-imparting element 74 is compressed and comes into sliding contact with the upper surface 44 of the channel 38 (see FIG. 3). At the same time, the guide strips 80, 82 are engaged by sidewalls 40, 42 of channel 38 (see also FIG. 3). The sidewalls 40, 42, being constructed of relatively harder material, modify the opposite guide strips as the locking member is inserted into the channel 38. As depicted a portion 83 of the opposite guide strips are planed away or shaved during assembly. Thus, the width of the upper portion 62 and attendant guide strips 80, 82 is then sized to friction fit within the width of the channel 38. In especially cold weather, the resin material of the preferred locking member 60 and the aluminum alloy of the preferred end plate both contract, but the locking member 60 will contract somewhat more than the end plate 20. In especially hot weather, both the preferred locking member 60, made of resin material, and the preferred end plate 20, made of aluminum alloy, will expand, but it is believed that the expansion of the aluminum alloy will be greater. In each case, therefore, in both especially cold temperatures and in especially hot temperatures, the preferred locking member 60 and the preferred end plate 20 will contract or expand at different rates and this will cause some looseness of the sliding locking member 60 within the end plate 20. The use of the friction-imparting element 74 is intended to compensate for this variation and to prevent the locking member 60 from sliding into a locked position when it has been placed, and is intended to remain in, an open position.--

Please replace the paragraph beginning at page 17, line 14, with the following rewritten paragraph:

-- In the preferred embodiment, the friction imparting element 74 and the guide strips 80,

82, are all in sliding contact with the walls 40, 42, 44, respectively, while the remaining surfaces of the upper portion 66 are in sliding contact with flanges 46, 48 of the second channel 38. These sliding contacts combine to provide a relatively constant resistive force over a wide range of temperatures as the locking element is manipulated along the channel. While the preferred embodiment features one friction imparting element and a plurality of guide strips elements, it is understood that other combinations may be used. As with the aforementioned latching member and end plate engagement member, the locking member 60 is preferably manufactured from a glass filled nylon resin material.--

Please replace the paragraph beginning at page 17, line 24, with the following rewritten paragraph:

-- FIG. 8 illustrates a portion of the apparatus attached to an inner sidewall 14 of the pickup truck. More specifically, a side rail 106 of the support frame is attached to the inner sidewall 14 preferably by a plurality of clamps 130. The clamp 130 has a first arm 132 and a second arm 150. As illustrated, the first arm 132 and the second arm 150 engage each other at contact surfaces 139 and 157, respectively. The contact surfaces 139 and 157 serve several different functions. First, the contact surfaces 139 and 157 provide a point about which the arms 132 and 150 may pivot with respect to each other. And second, the contact surfaces 139 and 157 serve to align and guide the arms 132 and 150 so that they are brought into confronting relation with each other when the clamp 130 is tightened. The first arm 132 includes a proximal end 134, a transition portion 136 and a distal end 138. The proximal end 134 includes the contact surface 139 having a recess 140, which is configured to receive and rotatably support a pivot or projection 158 on the second arm 150. The preferred configuration of the recess 140 is generally oriented orthogonally to the longitudinal axis of the arm 132. The proximal end 134 also includes a transversely aligned cavity 144, which is coaxially aligned with an aperture 166 in a nut 167. The cavity 144 is sized to securely retain the nut 167 of a fastening element 169, which includes nut 167 and bolt 164. The cavity 144 is sized to loosely receive the shaft of a bolt 164 of the fastening element 169. Although the aperture 166 is sized to fit the bolt 164, the cavity is much larger which allows the clamp to fall open easily at the end nearest the distal end 138 and distal non-parallel side joint between two surfaces similar to that

shown in FIG. 8. The distal end 138 of the first arm 132 includes a sidewall-contacting portion 146, which is preferably provided with a grip element 148. The grip element 148 has an irregular shaped surface and may be suitably affixed to the sidewall-contacting portion 146. The preferred grip element 148 has an irregular surface similar to coarse sandpaper and the preferred method of affixing is by using an adhesive. The second arm 150 includes a proximal end 152, a transition portion 154 and a distal end 156. As mentioned above, the proximal end includes a contact surface 157 having a pivot or projection 158, which is configured to be rotatably supported within a recess 140 in the proximal end 134 of the first arm 132. As with the recess 140, the preferred configuration of the projection is generally oriented orthogonally to the longitudinal axis of the arm 150. The proximal end 152 of the second arm also includes a transversely aligned cavity 145, which is sized to loosely receive the shaft of a bolt 164 of the fastening element 169. The distal end 156 includes a side rail-contacting portion 162. As depicted, the side rail-contacting portion 162 is configured to mesh with a similarly configured surface on a vertical attachment portion 108 of a side rail 106. Since the oversized cavities 144,145 of the respective first and second arms 132,150 allow the respective arms to pivot within the joint created by the insertion of the pivot 158 into the pivot receiving recess 140, the respective side rail and sidewall contact portions 146, 162, respectively, can pass through a range of non-parallel orientations with respect to one another especially enabling the clamp 130 to forcibly hold together a pair of relatively flat objects whose opposite surfaces when joined together present non parallel surfaces. --

Please replace the paragraph beginning at page 19, line 4, with the following rewritten paragraph:

-- In operation, to secure a side rail 106 to an inner wall 14 of a truck, a side rail 106 is brought into contact with an inner sidewall 14 of a truck 6. A clamp 130 is then positioned so that it straddles the inner sidewall 14 and the side rail 106. With the recess 140 and the projection 158 of the respective contact surfaces 139 and 157 in communication with each other, the fastening element is then snugged up so that the distal ends 138 and 156 contact the sidewall 14 and side rail 106, respectively. The fastening element is then manipulated to gradually increase the clamping force. As the force is increased several things occur. First, the arms 132 and 150 are aligned and guided by the cooperative interaction of the contact surfaces 139 and 157. Second, limiter surfaces 142 and 160

on the first and second arms 132, 150, respectively, converge towards each other, and third, the arms 132, 150 flex slightly, at the transition portions 136, 154, respectively, where they have some give due to the materials used to make them and the design of respective first and second arms 132, 150 which include the narrower transition portions 136, 154, respectively. When the limiter surfaces 142 and 160 contact each other, attachment of the side rail 106 to an inner sidewall 14 is essentially completed. This is because the clamp may not be easily over tightened. With this preferred embodiment, not only is the possibility of overtightening substantially reduced, but the clamp 130 provides a relatively constant clamping force, which compensates for differences in thickness of the material to be clamped together and also differences in attachment points. --

Please replace the paragraph beginning at page 19, line 25, with the following rewritten paragraph:

-- FIG. 8 also illustrates the operation of the locking member 60 as it may be manipulated between a first position (shown in phantom lines) where it operatively connects an end plate 20 to a side rail 106 of a support frame 104 and a second position where the locking member 60 is disengaged from the side rail 106 of the support frame 104. Note in the first position, that engagement surface 70 of the finger portion 68 engages the lower surface 122 of the side rail flange 118. --

Please replace the paragraph beginning at page 21, line 1, with the following rewritten paragraph:

-- Referring now also to FIGS. 11 and 12, a further embodiment of the tonneau cover apparatus 408 is depicted. A flexible cover 410 is shown attached to an end plate 420 having a side panel 430. This embodiment differs from the preferred embodiment in that the end plate 420 is provided with generally radially shaped base portion 422 and the end plate engagement member 440 is provided with a reciprocally shaped base portion receiving area 442 so that the base portion 422 can slidably pivot within the base portion receiving area 442 when fully engaged therewith as shown in FIG. 11, such that the end plate 420 can be lifted away from the fixed stretching position, shown in FIG. 12, and the base portion 422 has pivoted within the receiving area 442, slightly away from the fixed stretching position. As shown in phantom in FIG. 12, when the base portion 422 is pivoted

G18 further, it will come away from the base portion receiving area 442, but not before it has slidingly pivoted somewhat within the receiving area 442. --

Please replace the paragraph beginning at page 22, line 5, with the following rewritten paragraph:

-- The alternate embodiment shown in FIGS. 13, 14 and 15 also includes a locking member 560 that engages an inward extending flange 618 of a side rail 606 in a manner similar to that disclosed in the preferred embodiment, except that the locking member 560 is configured differently and the finger portion 568 is configured somewhat differently. In addition the locking member 560 is secured within a channel 538 by securing a bolt 539 to the locking member 560 with a nut 541. The bolt 539 slides easily within the channel 538 to engage the inwardly extending flange 618 of the side rail 606. In preferred embodiments, the end plate 520 will have a pair of radial base portions 522 proximate the respective ends of the end plate 520 which are configured to reciprocally engage a pair of engagement members 670 secured to each of a pair of side rails 606 attached to respective sidewalls (not shown) of the pickup truck 506. The other features of this alternate invention are similar to or the equivalent to those features of the preferred embodiment disclosed in FIGS. 1-10. The further alternate embodiment of the invention includes a tonneau cover apparatus 508 having a support frame 604, which can be secured to a side wall (not shown) of a pick-up truck (not shown) using a clamp 630 secured at least in part with a bolt 664. A flexible cover 510 is shown, which is secured to the end plate 520 within a channel 536, shown in FIG. 13. --

Please replace the paragraph beginning at page 22, line 19, with the following rewritten paragraph:

G19 -- Referring now also to FIGS. 16 and 17, yet another alternate embodiment of the present invention is disclosed in which the alternate embodiment differs from the preferred embodiment disclosed in FIGS. 1-10, by providing an alternate locking member 760 which slides easily within a channel 738 similar to the second channel 38 of the preferred embodiment. The alternate embodiment includes a support frame 804 and a side rail 806 like those associated with the previously disclosed embodiment shown in FIGS. 1-10. In the alternate embodiment shown in FIGS. 16 and 17, the locking member 760 does not include the friction imparting elements or guide strips of the preferred embodiment. Instead, the alternate end plate 720 includes a tension

spring 774 secured at each end of the elongated end plate 720 to bias each of two locking members toward a position consistent with a closed or locked position similar to that shown in FIG. 17. The tension springs 774 are secured to the respective interior surfaces (not shown) of respective end caps 790 at each of the ends 793 of the alternate end plate 720 and to the respective locking members 760, thereby biasing each of the locking members 760 toward a pair of stop bolts 819 secured to the end plate 720 proximate each of the respective ends 793 of the end plate 720. A draw cord or cable 765 is also attached to each of the respective locking members. Each of the respective draw cords are preferably passed through an eyebolt guide 767 and gathered together in a guide actuator 769. --

Please replace the paragraph beginning at page 24, line 5, with the following rewritten paragraph:

-- Yet another alternate embodiment is shown in FIG. 18 where an embodiment like that shown in FIGS. 16 and 17 is shown, but which differs primarily only because the tension springs 774 of the embodiment shown in FIGS. 16 and 17 are replaced by compression springs 974 which push, rather than pull the locking member 960 or members, if there are more than one, which there preferably are, against the flange 1018 and/or the stop bolt 1019. In this case, the compression spring 974 slides over and is engaged by a first spring guide protrusion 977 extending away from the locking member 960 and a second spring guide protrusion 979 extending away from a spring stop 983. All the other features of this embodiment are preferably the same as the features of the alternate embodiment shown in FIGS. 16 and 17 and this embodiment operates generally in the same way with the exception of the operation of the compression spring 974 as compared to the tension spring 774. The embodiment shown in FIG. 18 includes a support frame 1004 having a side rail 1008. The end plate 920 is shown in an engaged position. The flexible cover 910 is engaged with the support frame 1004 and the finger 968 of the locking member 960, configured to slidingly engage an outwardly extending flange 1018 of the support frame 1004, is shown in an engage position, similar to that shown in FIG. 17 with respect to the prior embodiment, wherein the finger 968 can be slidingly positioned under an end 1021 of the outwardly extending flange 1018, as shown. --